

Friden 1008





*Please be sure to read this entire instruction manual carefully before using your new calculator*

## **INTRODUCTION**

Your new FRIDEN\* 1008 Mini Calculator incorporates the latest electronic miniaturization technologies (MOS/LSI) to give you big-machine features in a small, portable, highly efficient unit.

The Mini 1008 is a self-contained, full function machine that can be operated from its own built-in rechargeable batteries or from normal house power (AC/115V).

It features floating decimal input, 8-digit capacity, underflow truncation, positive and negative multiplication and division, constant factor multiplication and division, and power calculations. It gives a true credit balance with bright fluorescent tube display of digits and negative and extended answer (underflow) symbols.

## **CAUTIONS**

Like the sophisticated precision instrument it is, the Mini 1008 needs the special care of an electronic calculator if you are to receive the years of dependable service it is designed to give.

Protect it from extended use in temperature extremes (beyond the operating range of 32°F to 104°F), from direct sunlight for extended periods, and from moisture, dust, or volatile liquids. Clean with a soft cloth or chamois.

Operate the keys lightly. Never use excessive force. Do not pile things on the calculator. And, of course, do not hit or drop it.

Please feel free to call upon us whenever you have questions or need assistance. The address and telephone number of your local Friden representative is listed in the Yellow Pages of your telephone directory. He has years of figure work experience to draw upon, and will be glad to help without obligation. Or simply write us: Friden Division, The Singer Company, San Leandro, California 94577.

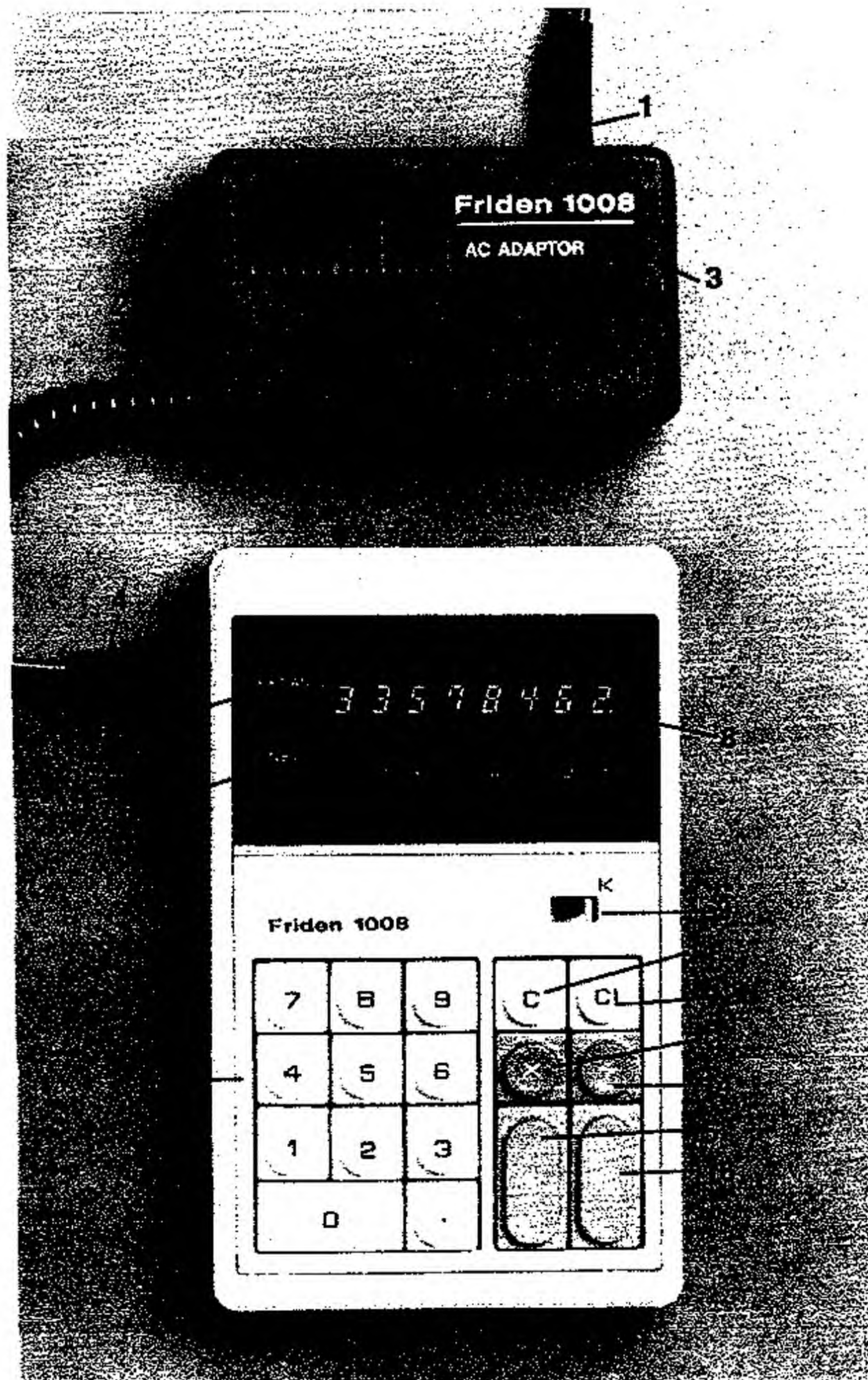
\*A trademark of The Singer Company.



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## **FRIDEN 1008 Mini Calculator and AC Adapter/Recharger**

1. Power supply cord for AC Adapter/Recharger
2. AC Adapter/Recharger
3. Charging lamp
4. Connecting cord
5. On/off switch
6. Extended answer underflow condition indicator
7. Negative sign
8. Eight-digit display
9. Constant switch
10. Numeric and decimal entry keys
11. Clear all key
12. Clear entry key
13. Multiplication key
14. Division key
15. Plus/equals key
16. Minus/equals key

### **SPECIFICATIONS**

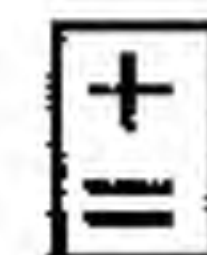
|                                       |  |
|---------------------------------------|--|
| DISPLAY                               | Fluorescent tube 8-digit<br>and sign symbol display  |
| SIZE                                  | 1008: 4" W x 7" D x<br>2 <sup>1</sup> / <sub>8</sub> " H<br>Adapter: 2 <sup>5</sup> / <sub>8</sub> " W x 4 <sup>3</sup> / <sub>16</sub> " D<br>x 2 <sup>1</sup> / <sub>8</sub> " H |
| WEIGHT                                | 1008: 1.21 lb.<br>Adapter: 0.95 lb.  |
| POWER SOURCES                         | AC: (cord) 115V<br>DC: (batteries) nickel/<br>cadmium rechargeable<br>power cell   |
| POWER CONSUMPTION                     | AC: 5W<br>DC: 1.8W   |
| NORMAL OPERATING<br>TEMPERATURE RANGE | 32°F to 104°F  |



**MODEL 1008 CONTROL FEATURES**

**(C)** CLEAR KEY clears operating registers and keyboard. Use it: (1) In constant factor multiplication and division to change constants or to change from multiplication to division or the reverse. (2) To unlock keyboard and clear display when capacity is exceeded and an extended answer occurs.

**(CI)** CLEAR ENTRY KEY clears the entry from the first operating register display. Used to correct mis-indexed numbers.



PLUS/EQUALS KEY adds and orders the result total for multiplication and division.



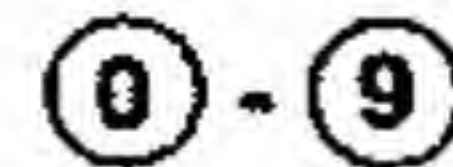
MINUS/EQUALS KEY subtracts and orders the result total for negative multiplication and division.



MULTIPLICATION KEY enters multiplicand and orders multiplication.



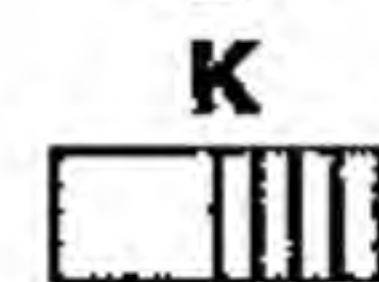
DIVISION KEY enters divisor and orders division.



NUMERAL ENTRY KEYS are used to index factors just as you would write them — index each digit from left to right, touching the decimal key as the decimal appears in the number.



DECIMAL POINT KEY



CONSTANT SWITCH is used for constant factor multiplication, division, and for power calculation. With this switch on (in the "K" position) the first figure entered in multiplication (multiplicand) and the second one in division (divisor) is automatically retained as a constant. Reset a new constant factor by first touching the (C) key. Turn off the constant switch when not in use.

EXTENDED ANSWER (UNDERFLOW) indicator lights up to show: (1) That an answer has more than eight whole numbers; although the eight shown — the most sig-



nificant *first* eight — are correct. Decimal point position (from left to right) shows the number of whole numbers that have been cut off. In an underflow condition, further operations are stopped until reset by touching the (C) key. Or, (2) That the batteries are low and need recharging.

NEGATIVE INDICATOR lights up whenever results are negative.

ADAPTER CHARGING LAMP lights up during battery recharging to show:

|                        |                |
|------------------------|----------------|
| Brightly lit . . . . . | fully charging |
| Flickering . . . . .   | 80% recharged  |
| Getting dark . . . . . | 90% recharged  |
| Goes out . . . . .     | 100% recharged |

Charging stops automatically when batteries are fully recharged.

## OPERATION GUIDE

The FRIDEN 1008 Mini Calculator is just possibly the easiest calculator you have ever used. Most calculations are as simple as A, B, C:

- A. You enter a number (factor) you want the machine to modify arithmetically in some special way.
- B. Next you tell the machine *what* you want it to do (such as to add, subtract, multiply, or divide). And you do this simply by touching the plainly marked and color-coded function keys.
- C. Finally, you tell the machine *how much* to modify your original factor by entering a second number (factor). You then ask for the answer simply by touching an (=) key.

The answer, correctly pointed off, appears in the display window instantly.

Keep this simple A, B, C order in mind as you do all kinds of figure work and you will soon learn instinctively what to do next without referring to the instructions again.

Here's another idea to keep in mind which may prove helpful too:

Since arithmetic functions always result from the interaction of one number upon a second, the



## 8.

Mini 1008 provides two operating registers.

The first register, the display, is the one you see numbers displayed in as you enter the first factor or obtain the answer result of a calculation. The second register, like a hidden memory storage, is one you don't see. It holds the first factor awaiting your instructions as you enter the second.

Knowing that there are two operating registers is important for three reasons: First, because there is a second register holding the results of your previous calculation, you can do a series of calculations *without manual re-entries*. Second, before beginning a series of calculations, you will want to be sure the hidden register is clear of numbers by first touching the clear (C) key. Third, should you make an error in entering figures in a series of calculations, you can clear the entry without losing the result of previous calculations merely by touching the clear indicator (CI) key which clears register one, but leaves register two ready to accept your next instruction.

NOTE: TURN OFF CONSTANT SWITCH (K) IN NORMAL OPERATION. USE ONLY WHEN CONSTANT FACTOR OPERATIONS ARE REQUIRED.



## + / - ADDITION/SUBTRACTION/ MIXED DECIMALS

NOTE: 1. Begin calculations with clear registers and constant switch (K) turned off.  
2. Enter figures and decimals just as you would write them. Decimals are easy. No slides! No formulas! No presetting! Fewer chances for human error.

|                   | KEYBOARD ENTRIES | DISPLAY  |
|-------------------|------------------|--|
| <b>PROBLEM 1.</b> |                  |  |
|                   |                  | $\begin{array}{r} 12.3456 \\ + 7890.123 \\ \hline 7902.4686 \end{array}$ |
| a) ENTER          | 12•3456          | 12.3456  |
| b) WHAT (add)     | + =              | 12.3456  |
| c) HOW MUCH       | 7890•123         | 7890.123   |
| ANSWER            | + =              | 7902.4686  |
| CLEAR             | C                | 0.   |

|                          |       |   |
|--------------------------|-------|---|
| <b>PROBLEM 2.</b>        |       |   |
|                          |       | $\begin{array}{r} 12. \\ - 34. \\ - 5.684 \\ \hline - 27.684 \end{array}$ |
| a) ENTER                 | 12    | 12  |
| b) WHAT (positive entry) | + =   | 12  |
| c) HOW MUCH              | 34    | 34  |
| d) WHAT (subtract)       | - =   | -22   |
| e) HOW MUCH              | 5•684 | 5.684   |
| ANSWER                   | - =   | -27.684   |
| CLEAR                    | C     | 0.  |



**$\times/\div$  MULTIPLICATION/DIVISION**

NOTE: The first example demonstrates "underflow" answer protection. Whenever an answer exceeds capacity, the first eight digits are always displayed accurately while less significant excess digits automatically shift to the right and are cut off (truncated).

|                    | KEYBOARD ENTRIES  | DISPLAY           |
|--------------------|-------------------|-------------------|
| PROBLEM 3.         |                   |                   |
|                    | 123.456           |                   |
|                    | $\times$ 786.0128 |                   |
|                    | 97037.996         |                   |
|                    | $\times$ 2.0      |                   |
|                    | 194075.99 (24736) |                   |
| a) ENTER           | 123.456           | 123.456           |
| b) WHAT (multiply) | $\times$          | 123.456           |
| c) HOW MUCH        | 786.0128          | 786.0128          |
| d) WHAT (multiply) | $\times$          | 97037.996         |
| e) HOW MUCH        | 2                 | 2.                |
| ANSWER             | $+=$              | 194075.99 (24736) |
| CLEAR              | C                 | 0.                |

## PROBLEM 4.

|                  |                            |           |
|------------------|----------------------------|-----------|
|                  | .3333333                   |           |
|                  | 3 $\overline{) 1.0000000}$ |           |
| a) ENTER         | 1                          | 1.        |
| b) WHAT (divide) | $\div$                     | 1.        |
| c) HOW MUCH      | 3                          | 0.3333333 |
| ANSWER           | $+=$                       | 3.        |
| CLEAR            | C                          | 0.        |



**+ / - / × / ÷ MIXED CALCULATIONS/  
CONSTANTS/  
UNDERFLOW**

- NOTE: 1. The first illustration shows how easily figures flow from one arithmetic function to the next to speed and simplify even complex figure work.
2. With the constant switch on "K" position, you get automatic retention of the multiplicand or the divisor for multiplication or division. A constant may be changed by touching the Clear (C) key.
3. The integrity of whole number answers exceeding capacity is assured through a unique feature that not only protects the first 8 digits of the answer and underflows the excess, but also shows you the exact number of digits in the answer that were cut off. See last illustration in this set.

|                    | KEYBOARD ENTRIES                         | DISPLAY |
|--------------------|--|---------|
| PROBLEM 5.         |  |         |
|                    | $\frac{2(12.34 + 5.678 - 9)}{3} = 6.012$ |         |
| a) ENTER           | 12.34                                    | 12.34   |
| b) WHAT (add)      | +  | 12.34   |
| c) HOW MUCH        | 5.678                                    | 5.678   |
| d) WHAT (add)      | +  | 18.018  |
| e) HOW MUCH        | 9  | 9.      |
| f) WHAT (subtract) | -  | 9.018   |
| g) WHAT (multiply) | ×  | 9.018   |
| h) HOW MUCH        | 2  | 2.      |
| i) WHAT (divide)   | ÷  | 18.036  |
| j) HOW MUCH        | 3  | 3.      |
| ANSWER             | +  | 6.012   |
| CLEAR              | C  | 0.      |

PROBLEM 6.

$$1.02 \times 3.04 = 3.1008$$

$$1.02 \times 2.2 = 2.244$$

$$1 \div 0.3 = 3.3333333$$

$$2 \div 0.3 = 6.6666666$$



## 12.

|  |      |           |
|--|------|-----------|
| a) Switch constant on to "K" position. |      |           |
| b) ENTER (constant)                    | 1•02 | 1.02      |
| c) WHAT (multiply)                     | ×    | 1.02      |
| d) HOW MUCH                            | 3•04 | 3.04      |
| ANSWER                                 | + =  | 3.1008    |
| e) HOW MUCH (constant is ON) 2•2       |      | 2.2       |
| ANSWER                                 | + =  | 2.224     |
| f) CHANGE CONSTANT                     | C    | 0.        |
| g) ENTER                               | 1    | 1.        |
| h) WHAT (divide)                       | ÷    | 1.        |
| i) HOW MUCH (new constant divisor)     | •3   | 0.3       |
| ANSWER                                 | + =  | 3.3333333 |
| j) HOW MUCH (constant is ON) 2         |      | 2.        |
| ANSWER                                 | + =  | 6.6666666 |
| k) SWITCH CONSTANT K TO OFF CLEAR      | C    | 0.        |

### PROBLEM 7.

$$\begin{array}{r}
 12345678 \\
 \times \quad 1234 \\
 \hline
 15234566 \text{ (652)}
 \end{array}$$

|                    |          |                 |
|--------------------|----------|-----------------|
| a) ENTER           | 12345678 | 12345678        |
| b) WHAT (multiply) | ×        | 12345678        |
| c) HOW MUCH        | 1234     | 1234            |
| ANSWER             | + =      | 152•34566 (652) |

In the example above, the exact number of whole numbers cut off (3) is pointed off by the decimal, and, when added to the eight whole numbers displayed, gives you the exact number of digits in the total answer (11).



## **BATTERY OPERATION AND RECHARGING**

Operate your new Mini 1008 from normal house power (AC/115V) or from its own rechargeable power cells (DC).

Bring the power cells up to full charge when you use the FRIDEN Mini for the first time, or if you have *not used it for more than a month*, by operating it from a regular wall-type outlet. Power cells provide about three hours of continuous power, and are automatically recharged *while you use the calculator as a desk machine*.

To power it from an AC outlet, just plug in the adapter power cord into a regular outlet. Then attach the connector cord to the calculator and turn on the calculator power switch. Slow charging takes about fourteen hours while in use. Quick charging (about five hours) is accomplished merely by turning off the power switch while connected to the adapter. You'll notice the charging lamp brighten as more power goes directly into recharging. When charging is completed, the charging lamp goes out and the power shuts off automatically.

## **IF YOUR CALCULATOR NEEDS SERVICE**

If your 1008 Mini Calculator should require service, please *do not send it to the local office of SINGER/FRIDEN*. Please do this instead:

1. Fill out a Calculator Service Request Card (Form 7336), or simply describe the operating problem briefly and indicate the exact return mailing address.
2. Include a check or money order, payable to Friden Division, The Singer Company, to cover applicable charges. Here is the current rate schedule:

### **UNITS COVERED BY WARRANTY:**

Pay the handling and return  
postage charge only . . . . . \$ 5.00



14.

UNITS NOT COVERED BY WARRANTY:

- a) Normal usage failures — pay the flat rate charge only (includes handling) . . \$35.00
- b) Units subjected to misuse, abuse, neglect or accident (as determined by Singer):  
You will be notified of the additional cost of repair. And we will await your written authorization before making repairs.

- 3. Repack the calculator and AC adapter in original shipping carton.\* Send prepaid and insured together with the Calculator Service Request Card and the appropriate full payment to one of the Service Centers shown below.

You will be notified by mail when your units are received at our Service Center.

**PLEASE FORWARD UNITS TO ONE OF THESE SERVICE CENTERS:**

(East of the Mississippi)  
FRIDEN DIVISION  
THE SINGER COMPANY  
Service Center  
570 Culver Road  
Rochester, NY 14603

(West of the Mississippi)  
FRIDEN DIVISION  
THE SINGER COMPANY  
Service Center  
2596 Nicholson Street  
San Leandro, CA 94577

**\*NOTE:** If you do not have the original shipping carton, you can get one locally through your SINGER/FRIDEN office.



## **BASIC WARRANTY — ADDING MACHINES AND CALCULATORS**

The Singer Company, Friden Division ("Singer") warrants to the original user only that each new FRIDEN 1008 Calculator and AC Adapter ("units") shall be free from defects in material and workmanship under normal use and service for one year after delivery. Singer's sole liability for any defects shall be to repair or replace, at its option, any unit which Singer reasonably determines to have a defect covered by its warranty. Such repair or replacement shall be made within a reasonable time and without charge, except for a \$5.00 handling charge. All shipping charges in connection with this warranty shall be paid by user.

Used and reconditioned units are sold AS IS.

This warranty does not apply to normal maintenance, nor to any unit repaired or altered, except by Singer, in such a way as in Singer's reasonable judgment to affect adversely its performance and reliability nor to any unit subjected to misuse, abuse, neglect, or accident. No repair or replacement under this warranty shall extend the warranty period for any unit.

THIS WARRANTY IS IN PLACE OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE AND ANY WARRANTY OTHERWISE ARISING OUT OF A SPECIFICATION OR SAMPLE PROVIDED BY SINGER. EXCEPT AS HEREIN PROVIDED, SINGER SHALL HAVE NO OBLIGATION OR LIABILITY WITH RESPECT TO UNITS. Singer neither assumes, nor authorizes any other person to assume for it, any other liability in connection with units. This warranty is non-transferable.

## **OPTIONAL EXTENDED WARRANTY**

If the original user so elects, Singer shall extend the Basic Warranty for a total of three years after delivery. The Extended Warranty shall be identical to the Basic Warranty. To obtain the Extended Warranty, the original user must make application for Extended Warranty at the time of purchase of each unit to be covered by Extended Warranty, and remit with such application the non-refundable charge established from time to time by Singer.



**SINGER**  
FRIDEN DIVISION